

IN THE CLAIMS:

1. (Amended) A method of analyzing a target nucleic acid by applying a nucleic acid amplification reaction to a test solution, said method comprises [the steps of]:

(a) performing a nucleic acid amplification reaction of the target nucleic acid to provide nucleic acid amplification products including amplified nucleic acid [using] in a test solution containing a forward primer and a reverse primer, a substrate [molecule] comprising nucleotides, wherein at least one of said nucleotides [which] is labeled with a marker molecule capable of generating a detectable signal, a nucleic acid [synthase] polymerase, and a target nucleic acid molecule;

(b) measuring a signal from the marker molecule in the test solution after initiation of the nucleic acid amplification reaction;

(c) evaluating the mobility of the [labeled molecule] amplified nucleic acid which is labelled with the marker molecule, in the test solution on the basis of the signal detected; and

(d) quantifying the target nucleic acid molecule on the basis of evaluation results.

Sub 2 2. (Amended) A method according to claim 1, wherein the measurement step includes a step of measuring an amount of the marker molecule present in a predetermined [measurement area] micro detection field.

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3. (Amended) A method according to claim 2, wherein, in the measurement step, a [moving amount] migration distance of the amplified nucleic acid labeled with the marker molecule within a predetermined time interval is measured for a plurality of times.

4. (Amended) A method according to claim 3, wherein the evaluation step includes a step of converting a change of the [moving amount] migration distance into [a] statistical data, on the basis of a plurality of measurement data.

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5. (Amended) A method according to claim 4, wherein the [conversion step] converting includes a step of performing [a] an arithmetic operation by [means of] an autocorrelation function.

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6. (Amended) A method according to any one of claims 1 to 5, wherein,

the method further comprises [a step of] removing [the] labeled [substrate molecule] nucleotide which is not incorporated into the nucleic acid amplification products, between the [step of] performing of the nucleic acid amplification reaction and the [measurement step] measuring of the signal, and

the [measurement step] measuring of the signal is performed in [the] a state of noncontact with the test solution.

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7. (Amended) A method according to any one of claims 1 to 5, wherein the [quantification step] include a step of] quantifying